

DEPURECO · II 3 D EX H IIIC T200 DC

Depureco CVS 220 ROOTS Z22



The Depureco CVS 220 ROOTS Z22 is a central ATEX vacuum unit for Zone 22 (external) with a **3D ATEX Roots pump** (3-lobe rotary positive displacement) -- delivered WITHOUT integrated filter and WITHOUT container. A 22-30 kW 3D ATEX-certified Roots pump delivers 1200 m³/h at 490 mBar constant vacuum and 84 dB(A). Unlike the side-channel variants, the Roots pump holds its vacuum **constant across the entire flow range** -- it is the right choice for high pressure drops, long pipe networks, and conductive metallic dust requirements (IIIC). The unit **must be mandatorily combined with a separate filtration and collection unit** (e.g. DV AIR 1100 Z22, DV AIR WB Z22 or HF Z22) -- the CVS ROOTS alone is just the prime mover of the installation. Inlet and exhaust silencers are included from the factory. An exhaust silencer (SIL) is available as an option. An optional HEPA H14 secondary filter (110,000 cm² fiberglass) can be added. Footprint 1282 x 1100 x 1420 mm, IP55, insulation class F. Inlet Ø150 mm. This is the entry model in the CVS ROOTS range -- 22-30 kW and 1200 m³/h at 490 mBar. Suited to medium-sized central systems needing constant high vacuum in conductive metallic dust (IIIC). ATEX marking II 3 D Ex h IIIC T200 Dc (conductive metallic dust, max 200 degrees C surface temperature).

APPLICATIONS

- Central vacuum unit for multiple take-off points in ATEX Zone 22 with conductive metallic dust (IIIC)
- Pipe systems with high pressure drops and long suction runs
- Combined with separate filter unit for industry-specific filtration
- Continuous duty at constant high vacuum (490 mBar)
- Processes where the side-channel blower cannot deliver the vacuum -- the Roots pump characteristic holds vacuum constant

Technical specifications

ATEX marking	II 3 D Ex h IIIC T200 Dc
Internal / external zone	- / 22
Motor type	3D ATEX Roots-pumpe (3-lobe rotary positive displacement), 22-30 kW -- IIIC T200-klasse
Airflow	1200 m ³ /h
Vacuum	490 mbar
Sound pressure	84 dB(A)
Filter class	No primary filter
Filter type	Intet primaerfilter paa enheden -- CVS ROOTS Z22 skal kombineres med en separat filter- og opsamlingsenhed (fx DV AIR 1100 Z22, DV AIR WB Z22 eller HF Z22). Valgfri HEPA H14 sekundaer (110.000 cm ² fiberglas, EN 1822 klasse H14) kan tilfoejes som option mellem pumpe og filter-enhed.
Primary filter	Intet -- kraever separat filter-enhed
Cleaning system	Ikke relevant paa enheden -- renses paa tilknyttet filter-enhed (SP pulsejet-rens paa fx DV AIR eller HF)
Collection system	No collection (separate filtration and collection unit required)
Material	Lakeret staal-kabinet med lyddaempning (inkl. indloeb- og udkastlyddaemper)
IP class	IP55
Power	30.0 kW
Voltage	400 V / 50-60 Hz
Dimensions (L x W x H)	1282 x 1100 x 1420 mm

Questions and answers

What does the ATEX marking II 3 D Ex h IIIC T200 Dc mean?

The unit is EU-type approved under ATEX directive 2014/34/EU for operation in external Zone 22 (dust, low risk). 'Ex h' is the constructional safety type per EN ISO 80079-36/37 -- note that this is Ex h alone, without the 'tc' suffix that CVS Z22 side-channel blowers carry. For the Roots pump, ignition protection is ensured through construction (temperature class, clearances, material selection) rather than through a tc-protected enclosure. 'IIIC' covers conductive metallic dust (aluminium, steel, magnesium etc.) -- the broadest dust category, including IIIA and IIIB. 'T200' is the maximum surface temperature in operation (200 degrees C) -- markedly higher than T140 on the side-channel variants, because Roots technology runs hotter. 'Dc' is the EPL code for Zone 22.

What is the difference between CVS Z22 (side-channel) and CVS ROOTS Z22?

Both are central ATEX vacuum units for Zone 22, but they have very different operating profiles. **CVS Z22** (A686-A696) uses a 3D ATEX-certified **side-channel blower** -- quiet, compact, 200-380 mBar vacuum, up to 1985 m3/h. It is IIIB T140 (non-conductive dust). **CVS ROOTS Z22** (A1890-A1892) uses a 3D ATEX-certified **Roots pump** (3-lobe rotary positive displacement) -- constant 490 mBar vacuum across the entire flow range, up to 1700 m3/h. It is IIIC T200 and handles conductive metallic dust. In short: choose Roots when you need higher and more constant vacuum, higher pressure drops, or when the dust is conductive metal. Choose side-channel when vacuum demand is moderate and flow is the main focus.

Why does CVS ROOTS Z22 have no built-in filter or container?

Like CVS Z22 (side-channel), CVS ROOTS Z22 is designed as a modular central system. The unit contains only the vacuum unit -- the Roots pump and motor in a robust cabinet with inlet and exhaust silencers -- without filter and without container. That gives freedom to tailor the rest of the installation to the process: the filter is chosen for the dust type (class M, H13 or H14), and the collection is chosen for the duty cycle. The catalogue states it directly: 'CVS vacuum units must be mandatorily combined with a filtration and collection unit' -- CVS ROOTS is the prime mover, and the filter/collection unit is the other half of the solution.

Which filter units can CVS ROOTS Z22 be combined with?

The same three main options as for CVS Z22 side-channel: (1) **HF Z22** series -- central-system filter without container, where dust is discharged continuously via big-bag, Longopac, rotary valve or direct pipe to process. (2) **DV AIR** / **DV AIR Z22** -- large-format filter unit (1700 or 2700 m3/h, 4 or 7 cartridges) combined with DISCHARGE SYSTEMS or a pre-separator (FILTER HOPPER). (3) **DV AIR WB** / **DV AIR WB Z22** -- filter unit with 175 L integrated stainless-steel container. ROOTS units typically combine with the larger filter units (DV AIR 1100 Z22 or DV AIR WB Z22) plus discharge systems for continuous dust handling. We help match the filter unit to your ROOTS model based on airflow, vacuum and dust characteristics.

Contact and advisory

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